AMENDMENTS TO THE CLAIMS

1. (Currently amended) ~~Use of an~~ A SiC-based composite material capable of use as an inner coating for an aluminium smelting furnace or as an inner coating for a fused salt electrolytic cell, ~~characterised in that~~ wherein said composite material has been prepared from a ~~so-called~~ "precursor mixture[["]] comprising at least one β-SiC precursor and at least one carbonated resin, and ~~in that~~ wherein said composite material contains inclusions, and wherein at least one part thereof ~~consists of~~ comprises α-SiC, in a β-SiC matrix.

2. (Currently amended) ~~Use~~ A composite material according to claim 1, wherein ~~the~~ a fraction by weight of said inclusions is between 80% and 95% with respect to the total mass of the precursor mixture.

3. (Currently amended) ~~Use~~ A composite according to claim 1 ~~or 2~~, wherein ~~part~~ at least a portion of said inclusions ~~consists of~~ comprise at least one of alumina, silica, TiN, and/or Si_3N_4 ~~or a mixture of these compounds~~.

4. (Currently amended) ~~Use~~ A composite according to ~~any of~~ claim[[s]] 1 ~~to 3~~, wherein at least 50% by weight of said inclusions comprise~~, and preferentially at least 70% by weight of said inclusions, consists of~~ α-SiC.

5. (Currently amended) ~~Use~~ A composite according to ~~any of~~ claim[[s]] 1 ~~to 4~~, wherein said material has a density of at least 2.4 g/cm^3~~, and preferentially a density between 2.45 and 2.75 g/cm^3~~.

6. (Currently amended) ~~Use~~ A composite according to ~~any of~~ claim[[s]] 1 ~~to 5~~, wherein said material is ~~used~~ in the form of bricks or panels.

7. (Currently amended) ~~Use~~ A composite according to ~~any of~~ claim[[s]] 1 ~~to 6~~ capable of use as a lining for an electrolytic cell for the production of aluminium from a mixture of alumina and cryolite.

Please add the following New claims:

8. (New) A composite according to claim 4, wherein at least 70% by weight of said inclusions comprise α-SiC.

9. (New) A composite according to claim 5, wherein said density is from 2.45 to 2.75 g/cm^3.

10. (New) A composite according to claim 2, wherein at least a portion of said inclusions comprises at least one of alumina, silica, TiN, and/or Si_3N_4.

11. (New) A composite according to claim 3, wherein at least 50% by weight of said inclusions comprise α-SiC.

12. (New) A composite according to claim 4, wherein said material has a density of at least 2.4 g/cm^3.

13. (New) A composite according to claim 5, wherein said material is in the form of bricks or panels.

14. (New) A composite according to claim 9, wherein said material is in the form of bricks or panels.

15. (New) A coating for an aluminum smelting furnace comprising a composite of claim 1.

16. (New) A coating for a fused salt electrolytic cell comprising a composite of claim 1.

17. (New) A lining for an electrolytic cell comprising a composite of claim 1.

18. (New) A method for making a coating suitable for use in an aluminum smelting furnace or an electrolytic cell comprising:

preparing a composite material from a precursor mixture comprising at least one β-SiC precursor and wherein said composite material comprises inclusions, and further wherein at least a portion thereof comprises α-Si-C in a β-Si-C matrix, and

forming said coating from said composite material.

19. (New) A method of claim 18, wherein at least a portion of said inclusions comprise at least one of alumina, silica, TiN, and/or Si_3N_4.

20. (New) A coating prepared by a method of claim 18.